



Socio-Economic Appraisal of Flood Hazard among the Riparian Communities: Case Study of Brahmaputra Valley in Assam; India

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Brahmaputra valley of Assam is one of the most hazard prone areas of the Indian subcontinent. Recurring floods have severely affected the riparian communities of the region since time immemorial. But, the frequency of the problem has been intensified after the great earthquakes of 1897 and 1950. These two extreme earthquakes have disturbed the geological setting of the basin and the channel morphology has been altered henceforth. The impact of floods on riparian communities in Brahmaputra valley has been abysmal. During the monsoon season almost 30 per cent of the valley has been inundated with floods and the riparian communities are mostly affected. Large chunk of people have been uprooted from their native lands due to recurring floods in the low lying areas of the region. Although it is impossible to quantify the human tragedy during the natural disasters, but one can easily understand the situation by the facts that about 1.8 million people and 200,000 hectares of farmland were affected in the 2016 floods of Assam. In the present study, an attempt has been made to assess the spatio-temporal changes of the morphology of Brahmaputra River and its impact on the livelihood of the riparian communities. For that, LANDSAT and SENTINEL imageries have been used to examine the shifting of bank lines of three decades. CARTOSAT DEM has been used to prepare the FLOOD HAZARD ZONATION map of the Brahmaputra valley to examine the flood vulnerable areas of the region. The present study also tries to explain the livelihood condition of the Internally Displaced Persons and their social cohesion.

Keywords: Brahmaputra River, Flood, LANDSAT, CARTOSAT DEM, FLOOD HAZARD ZONATION, Riparian Communities